1 (Thrice Amended)

A spark plug having a 360° sparking zone configuration to reduce fouling and improve combustion efficiency, said spark plug, comprising:

an outer annular electrode,

C1 an insulator disposed within said outer electrode and having an axial extent, said outer electrode having an annular end face which extends axially beyond said insulator,

an inner electrode secured within said insulator, and

a disk-shaped element supported on an end of said inner electrode, said disk-shaped element being spaced from the end face of said outer electrode by a gap "G" and defining with said outer electrode a 360° annular sparking [zone] path having a relatively large radial dimension compared to the size of the inner electrode and in which a spark can pass between the two electrodes at any point in the region of the 360° annular sparking [zone] path between the inner electrode and the outer annular electrode so that the points of ignition in the sparking path can continually change, said disk-shaped element being relatively large in size compared to the cross sectional size of the inner electrode and having a peripheral size which is almost equal to the peripheral size of the outer electrode end face, so that [sparks will be] the sparking path is spaced apart from and outwardly of the insulator and will not create a creepage discharge against an outer surface of the insulator.

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2 (Resubmitted)

The spark plug of claim 1, wherein said inner electrode comprises a rod-shaped element supported substantially centrally within said insulator.

3 (Resubmitted)

The spark plug of claim 2, wherein said rod-shaped element is held within said insulator by a tight friction fit whereby said gap "G" can be maintained.

4 (Resubmitted)

The spark plug of claim 3, wherein said gap "G" is adjustable.

5 (Resubmitted)

The spark plug of claim 4, wherein a preferred range of adjustment for said gap "G" is between 0.020 inch and 0.080 inch.

6 (Resubmitted)

The spark plug of claim 1, wherein the outer electrode includes an annular contact face comprising a hardened alloy material.

7 (Resubmitted)

The spark plug of claim 6, wherein said disk-shaped element comprises an annular lip at the periphery thereof, said lip extending in the direction of said contact face.

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8 (Resubmitted)

The spark plug of claim 7, wherein said lip has a rectangular cross-section.

9 (Resubmitted)

The spark plug of claim 7, wherein said lip has a triangular cross-section.

10 (Resubmitted)

The spark plug of claim 1, wherein said disk-shaped element comprises a circular plate having substantially parallel opposing major surfaces.

11 (Once Amended)

The spark plug of claim 10, wherein sparks in said sparking [zone] path move from said outer electrode to said inner electrode.

12 (Resubmitted)

The spark plug of claim 11, wherein said sparks comprise one or more simultaneously generated sparks.

13 (Resubmitted)

The spark plug of claim 1 wherein a spark in the spark zone moves axially with the inner electrode between the outer and inner electrodes.

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~~15~~ (Twice Amended)

An improvement in a spark plug, having an outer annular electrode and an insulator disposed within said outer electrode and having an axial extent, and where the outer electrode has an end face which extends radially beyond said insulator, and an inner electrode secured within said insulator; wherein the improvement comprises a disk-shaped element supported on an end of said inner electrode, said disk-shaped element being spaced from the end of said outer electrode by a gap and defining with said outer electrode a 360° annular sparking [zone] path having a relatively large radial dimension compared to the size of the inner electrode in which a spark can pass between the two electrodes at any point in the region of the 360° annular sparking [zone] path between the inner electrode and the outer annular electrode so that the points of ignition in the sparking path can continually change, said disk-shaped element being relatively large in size compared to the cross sectional size of the inner electrode and having a peripheral size which is almost equal to the peripheral size of the outer electrode end face, so that [sparks will be] the sparking path is spaced apart from and outwardly of the insulator and will not create a creepage discharge against an outer surface of the insulator.

16 (Resubmitted)

The improvement in the spark plug of claim 15 wherein said sparks comprise one or more simultaneously generated sparks.

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~~17~~ (Once Amended)

C3 The improvement in the spark plug of claim ~~15~~ 16 wherein a spark in the [spark zone] sparking path moves axially with the inner electrode between the outer and inner electrodes.

19
~~18~~ (Once Amended)

The improvement in the spark plug of claim ~~15~~ 16 wherein a spark in the [spark zone] sparking path moves in a 360° direction so that the points of ignition will continually change.

21 ~~19~~ (Twice Amended)

A spark plug, comprising:

an outer annular electrode,

an insulator disposed within said outer electrode and having an axial extent, said outer electrode having an annular end face which extends axially beyond said insulator and is spaced from said insulator,

an inner electrode secured within said insulator, and

an extension element supported on the end of said inner electrode, said extension element being spaced from the end face of said outer electrode by a gap and defining with said outer electrode a 360° annular sparking [zone] path having a relatively large radial dimension compared to the size of the inner electrode and in which a spark can pass between the two electrodes at any point in the 360° annular sparking [zone] path between the inner electrode and the outer annular electrode so that the points of ignition can continually change, said extension element having a peripheral size which is almost equal to the peripheral size of the end face of the outer electrode so that the sparking path is spaced apart from and outwardly of the insulator and will not create a creepage discharge against an outer surface of the insulator, said insulator being tapered inwardly from a point commencing axially beyond the end face of the outer electrode distal to the disk-shaped element in the region between and from the end face of the outer electrode to the disk-shaped element.

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22 ~~20~~ (Once Amended)

The spark plug of claim ~~19~~ 21 wherein a spark in the [spark zone] sparking path moves in a 360° direction so that the points of ignition will continually change.

21 (Resubmitted)

The spark plug of Claim 1 further characterized in that said insulator is tapered inwardly from a point commencing axially beyond the end face of the outer electrode distal to the disk-shaped element in the region between and from the end face of the outer electrode to the disk-shaped element.

22 (Resubmitted)

The improvement in the spark plug of Claim 15 further characterized in that said insulator is tapered inwardly from a point commencing axially beyond the end face of the outer electrode distal to the disk-shaped element in the region between and from the end face of the outer electrode to the disk-shaped element.